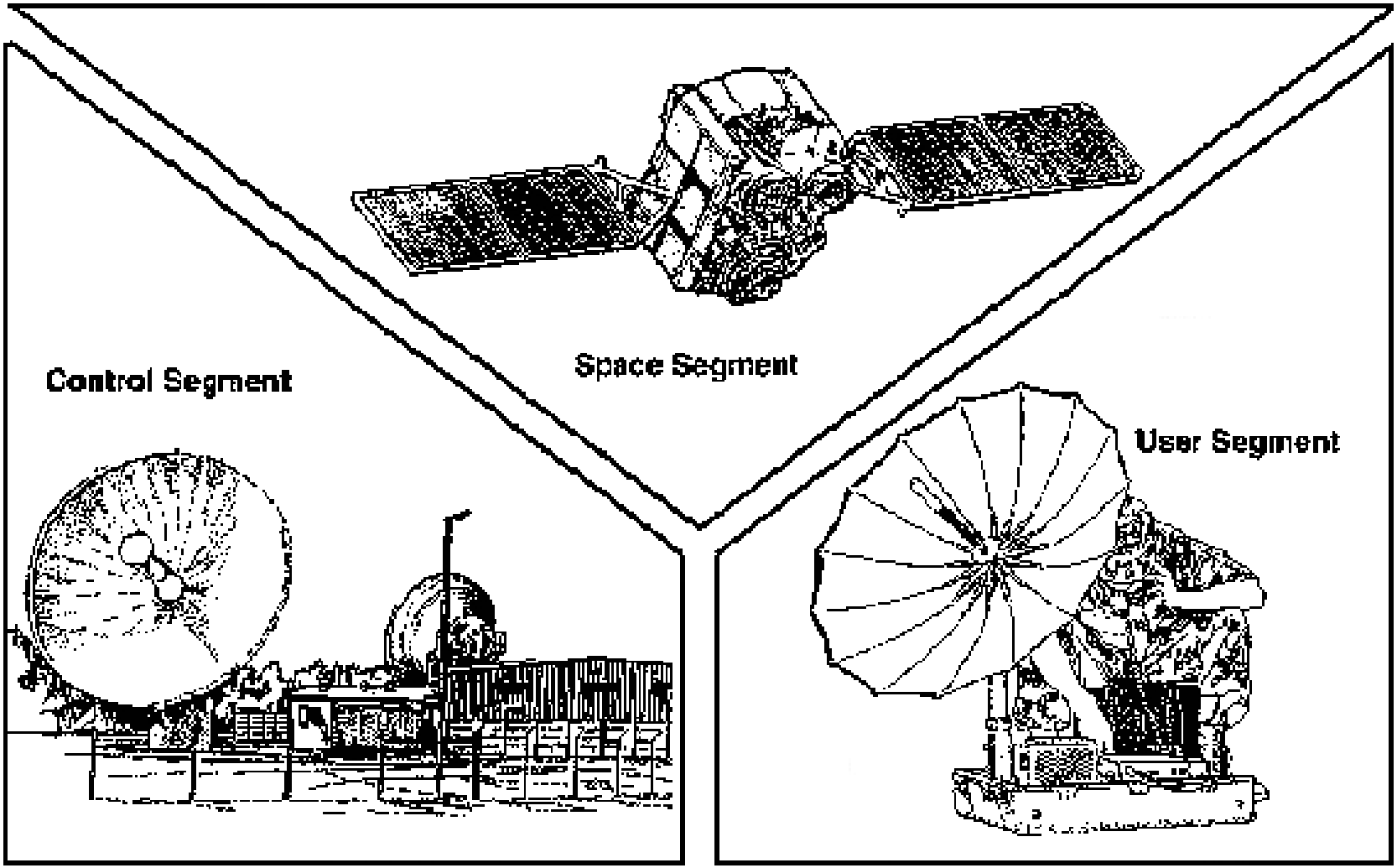
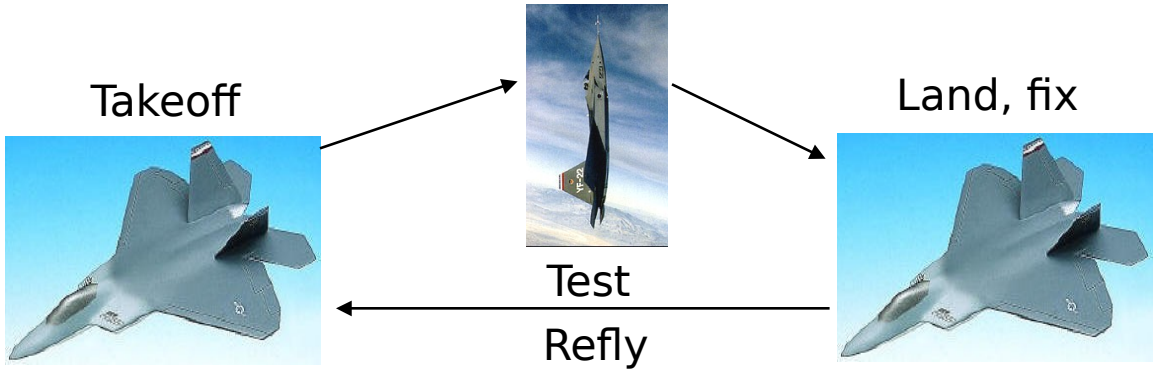
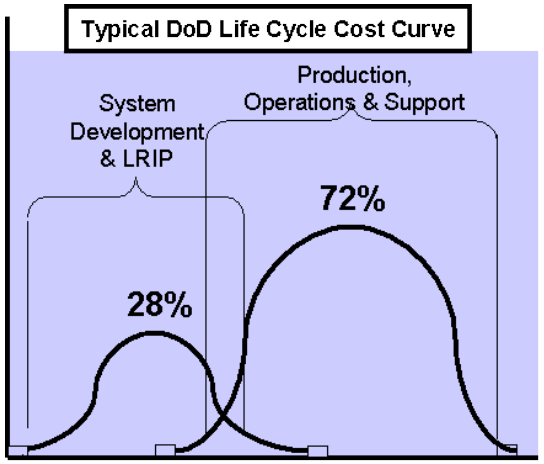
Space System Segments



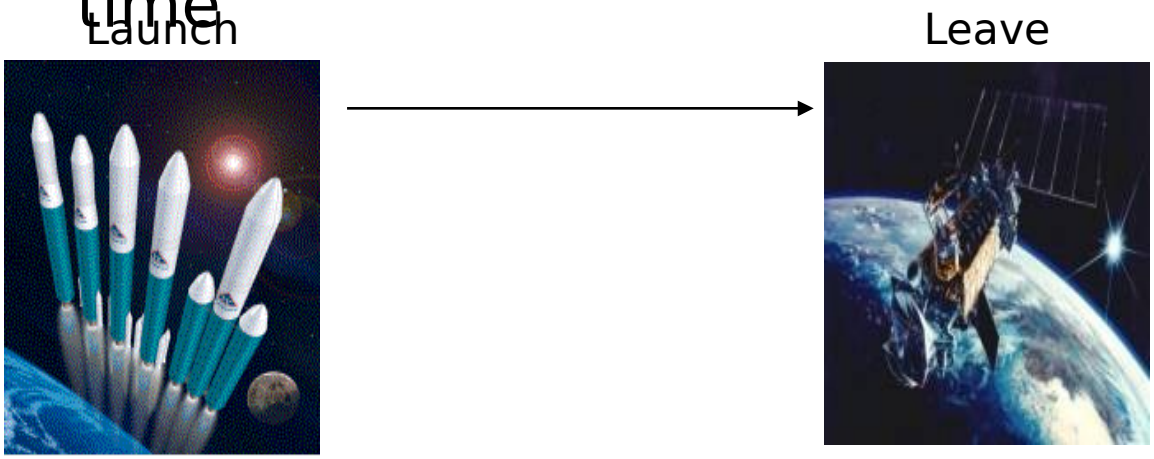
Uniqueness of Space Segment

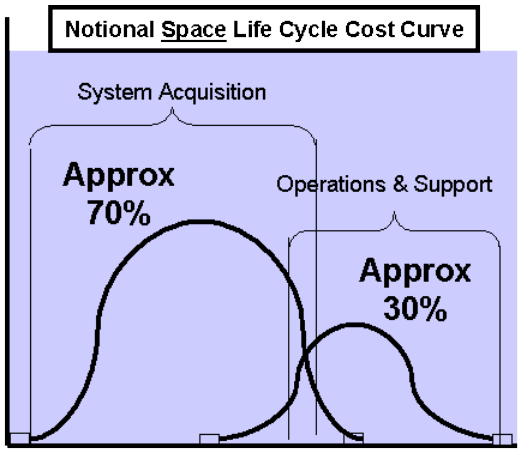
Aircraft test, land, fix and refly



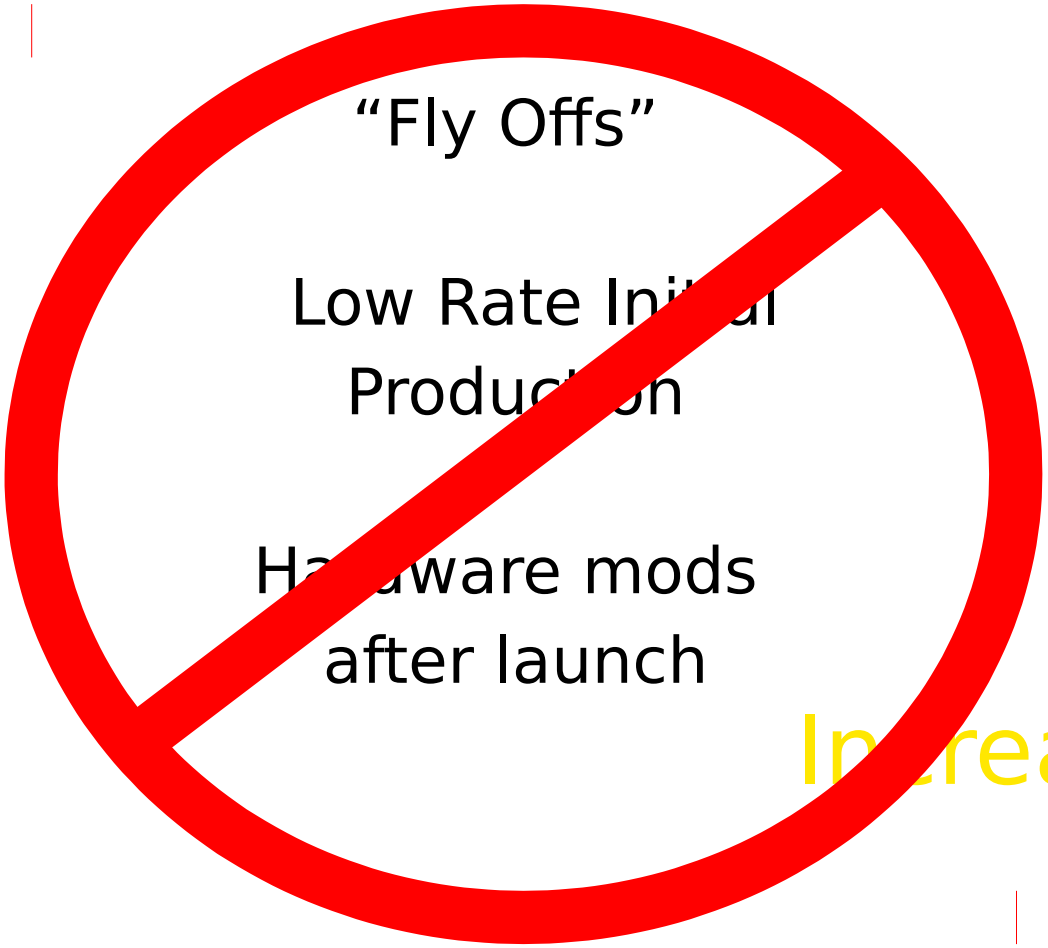


Launch/leave for 10-15 yrs – perfect first time, every time





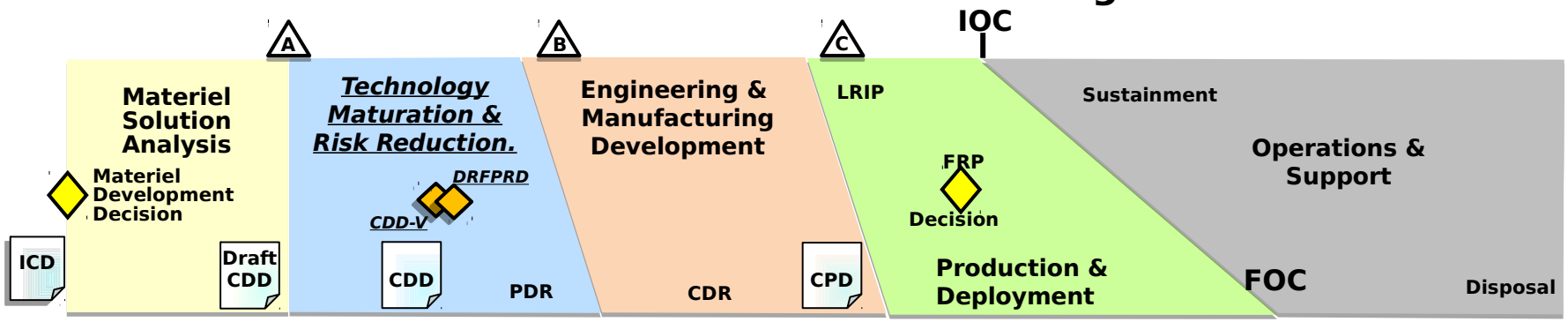
Uniqueness of Space Segment



Increased Risk

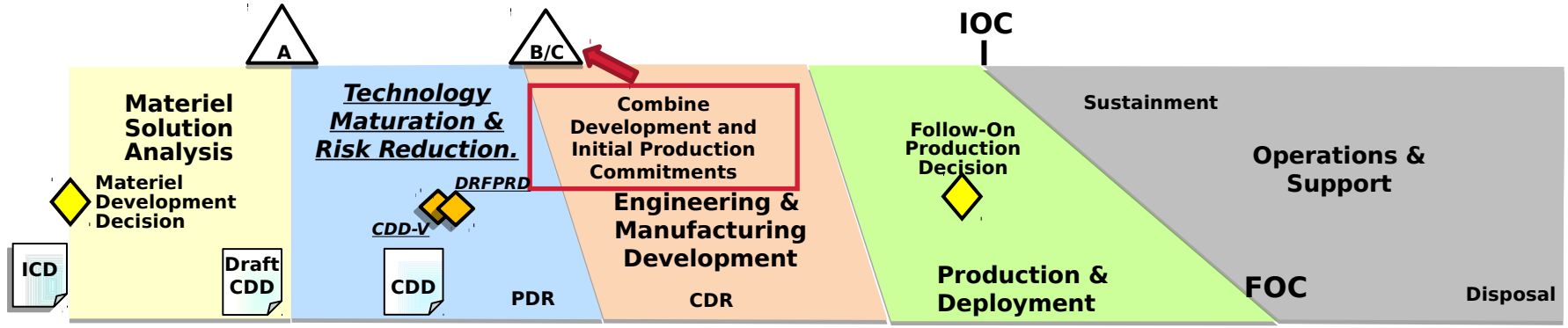
The Defense Acquisition Management System

Model 1: Hardware Intensive Program



High Cost First Article (Spacecraft) Model

Rationale—small quantities, front-loaded funding profile, first article operational



- PDR: Preliminary Design Review
- CDR: Critical Design Review
- CDD-V: CDD Validation
- LRIP: Low Rate Initial Production
- FRP: Full Rate Production
- DRFPRD: Development Request For Proposals Release Decision
- IOC: Initial Operational Capability
- FOC: Full Operational Capability

Implementation of DoDI 5000.02 for Space Systems Acquisition

DoDI 5000.02 (Operation of the Defense Acquisition System) emphasizes tailoring of program structures, content, and decision points to the product being acquired

Specific language addressing space systems:

Page 28, "(b) High-Cost First Article Combined Milestone B and C Decisions. Some programs, notably spacecraft and ships, will not produce prototypes during EMD for use solely as test articles because of the very high cost of each article. In this case, the first articles produced will be tested and then fielded as operational assets. These programs may be tailored by measures such as combining the development and initial production investment commitments. When this is the case, a combined Milestone B and C will be conducted. Additional decision points with appropriate criteria may also be established for subsequent low rate production commitments that occur prior to OT&E and a Full Rate Production Decision."

DoDI 5000.02 (7 Jan 15) is available at http://bbp.dau.mil/docs/500002p.p

Space Systems Acquisition Programs - Potential Acquisition Models

Space System Type	Examples	DoDI 5000.02 Program Model
Space-based systems	Satellites (Payloads and Bus)	Tailored Model 1 (Hardware Intensive) or Model 5 (Hybrid—Hardware Dominant)
Ground-based systems	Satellite command and control (C2), Launch C2, Payload data processing stations, Space surveillance stations	Model 2 (Defense Unique Software Intensive), Model 3 (Incrementally Deployed Software Intensive), or Model 6 (Hybrid—Software Dominant) if software intensive
Satellite launch vehicles	Boosters, Upper-stages	Launch capability can be procured as a service or Tailored Model 1 (Hardware Intensive)
User equipment	Hand-held user terminals, Data reception terminals, User terminals	Standard High Quantity Model

Principal DoD Space Advisor (PDSA)

- **Secretary of Air Force designated as PDSA**
  - **Oversee all DoD space matters including policies, strategies, plans, programming, and architecture assessments**
  - **Advance National Security Space (NSS) strategies through established processes for planning, programming, budgeting, and execution, space program acquisition, and space policy development**
  - **Chairs Defense Space Council (DSC) which addresses DoD unity of effort**
  - **Collaborates with and supports USD (AT&L) in his or her role as OSD focal point for space programs**
  - **DoD moving toward a more cohesive and unified space governance model**

signation driven by growing NSS dependencies and adversa

Survivability and Orbital Debris

- **DoDD 3100.10 (Space Policy)**
  - **Mitigate adversary's benefits of space system attack by enhancing resiliency and ensuring forces can operate effectively when space systems degraded**
  - **Follow US Government Orbital Debris Mitigation Standard Practices**
- **Space Security and Defense Program (SSDP)**
  - **Assists program offices in developing solutions and evaluating mitigation approaches against projected threats**
- **Orbital Debris**
  - **Debris is generated from normal operations, unintentional collisions/explosions, and intentional tests/attacks**
  - **Debris mitigation must implemented throughout**

Independent Program Assessment (IPA)

- **Independent Program Assessments (IPAs) are:**
  - **An independent, comprehensive, and systematic review of major space system managerial and technical progress**
  - **Designed to identify program cost, schedule, and performance risks; formulate risk mitigation plans; and provide feedback both to the PM and the Milestone Decision Authority (MDA)**
- **An IPA can be conducted before milestones, decision points or whenever directed**
- **IPAs have been conducted since 2000-timeframe and more recently also have other names (Independent Program Review, Acquisition Incident Review) but operate similarly to IPAs**

Space Acquisition Information

- **Additional Space Acquisition Information is Available at DAU's Space Acquisition Gateway (https://dap.dau.mil/gateways/space/Pages/Default.aspx)**
  - **ACQ-203 Space Variant schedule and registration**
  - **Lifecycle Framework Chart**
  - **Acquisition Policy Rapid Deployment Training**
  - **Community of Practice**
  - **ACQuipedia Article**